We claim:

1. A method of assessing the efficacy of an angiogenic disorder treatment in a subject, the method comprising:

   a) providing from the subject a test cell population comprising cells capable of expressing one or more nucleic acid sequences selected from the group consisting of PA:1-27;

   b) detecting expression of one or more of the nucleic acid sequences in said test cell population;

   c) comparing the expression of the nucleic acid sequences in the test cell population to the expression of the nucleic acid sequences in a reference cell population comprising at least one cell whose angiogenic stage is known; and

   d) identifying a difference in expression levels of the PA:1-27 sequences, if present, in the test cell population and the reference cell population,

thereby assessing the efficacy of an angiogenic disorder treatment in the subject.

2. The method of claim 1, wherein the subject is a mammal.

3. The method of claim 2, wherein the subject is human.

4. The method of ~~claim 1~~, wherein the expression of the nucleic acid sequences in the test cell population is increased as compared to the reference cell population.

5. The method of claim 1, wherein the expression of the nucleic acid sequences in the test cell population is decreased as compared to the reference cell population.

6. The method of claim 1, wherein the test cell population is provided *in vitro*.

7. The method of claim 1, wherein the test cell population is provided *ex vivo* from a mammalian subject.

8. The method of claim 1, wherein the test cell is provided *in vivo* in a mammalian subject.

9. A method of diagnosing an angiogenic disorder in a subject, the method comprising:

a) providing from the subject a test cell population comprising cells capable of expressing one or more nucleic acid sequences selected from the group consisting of PA:1-27;

b) detecting expression of one or more of the nucleic acid sequences in said test cell population;

c) comparing the expression of the nucleic acid sequences in the test cell population to the expression of the nucleic acid sequences in a reference cell population comprising at least one cell whose angiogenic stage is known; and

d) identifying a difference in expression levels of the PA:1-27 sequences, if present, in the test cell population and the reference cell population,

thereby diagnosing an angiogenic disorder in the subject.

10. The method of claim 9, wherein the subject is a mammal.

11. The method of claim 10, wherein the subject is human.

12. The method of claim 9, wherein the expression of the nucleic acid sequences in the test cell population is increased as compared to the reference cell population.

13. The method of claim 9, wherein the expression of the nucleic acid sequences in the test cell population is decreased as compared to the reference cell population.

14. The method of claim 9, wherein the test cell population is provided *in vitro*.

15. The method of claim 9, wherein the test cell population is provided *ex vivo* from a mammalian subject.

16. The method of claim 9, wherein the test cell is provided *in vivo* in a mammalian subject.

17. A method of identifying a test therapeutic agent for treating an angiogenic disorder in a subject, the method comprising:

a) providing from the subject a test cell population comprising cells capable of

expressing one or more nucleic acid sequences selected from the group consisting of PA:1-27;

b) contacting said test cell population with the test therapeutic agent;

c) detecting the expression of one or more of the nucleic acid sequences in said test cell population;

d) comparing the expression of the nucleic acid sequences in the test cell population to the expression of the nucleic acid sequences in a reference cell population comprising at least one cell whose angiogenic stage is known; and

e) identifying a difference in expression levels of the PA:1-27 sequences, if present, in the test cell population and the reference cell population,

thereby identifying a test therapeutic agent for treating an angiogenic disorder in a subject.

18. The method of claim 17 wherein the subject is a mammal.

19. The method of claim 18 wherein the subject is human.

20 The method of claim 17 wherein the test therapeutic agent is a known anti-angiogenic disorder agent.

21. The method of claim 17 wherein the test therapeutic agent is an agonist of a native PA polypeptide.

22. The method of claim 17 wherein the test therapeutic agent is an antagonist of a native PA polypeptide.

23. The method of claim 21 wherein the agonist is an anti-PA antibody.

24. The method of claim 22 wherein the antagonist is an anti-PA antibody.

25. The method of claim 17 wherein the test therapeutic agent is an unknown anti-angiogenic disorder agent.

26. The method of claim 17, wherein the angiogenic disorder is selected from the group

consisting of vascular tumors, proliferative vitreoretinopathy, rheumatoid arthritis, Crohn's disease, atherosclerosis, ovarian hyperstimulation, psoriasis, endometriosis associated with neovascularization, restenosis subsequent to balloon angioplasty, scar tissue overproduction, peripheral vascular disease, hypertension, inflammatory vasculitides, Reynaud's disease and Reynaud's phenomenon, aneurysms, arterial restenosis, thrombophlebitis, lymphangitis, lymphedema, wound healing and tissue repair, ischemia reperfusion injury, angina, myocardial infarctions, chronic heart conditions, heart failure such as congestive heart failure, age-related macular degeneration, and osteoporosis.

27. A method of diagnosing or determining the susceptibility to an angiogenic disorder in a subject, the method comprising:

a) providing from the subject a test cell population comprising cells capable of expressing one or more nucleic acid sequences selected from the group consisting of PA:1-27;

b) measuring expression of one or more of the nucleic acid sequences in the test cell population;

c) comparing the expression of the nucleic acid sequences in the test cell population to the expression of the nucleic acid sequences in a reference cell population comprising at least one cell from a subject whose angiogenic stage is known; and

d) identifying a difference in expression levels of the nucleic acid sequences, if present, in the test cell population and reference cell population,

thereby diagnosing or determining the susceptibility to the angiogenic disorder in the subject.

28. The method of claim 27 wherein the subject is a mammal.

29. The method of claim 28 wherein the subject is a human.

30. A method of treating an angiogenic disorder, the method comprising administering to a patient suffering from or at risk for developing the angiogenic disorder, an agent that modulates the expression or activity of one or more nucleic acid sequences selected from the group consisting of PA:1-27.

31. The method ~~of claim 30~~, the method comprising administering to a patient suffering from

or at risk for developing the angiogenic disorder, an agent that decreases the expression or activity of one or more nucleic acid sequences selected from the group consisting of PA:5, 14, and 15.

32. The method of claim 30, the method comprising administering to a patient suffering from or at risk for developing the angiogenic disorder, an agent that increases the expression or activity of one or more nucleic acid sequences selected from the group consisting of PA:1-4, 6-13, and 16-26..

33. The method of claim 30, wherein the agent is an antibody to a polypeptide encoded by the PA nucleic acid sequence, an antisense nucleic acid molecule, a peptide, a PA polypeptide agonist, a PA polypeptide antagonist, a peptidomimetic, small molecule, or other drug.

34. The method of claim 30, wherein the angiogenic disorder is selected from the group consisting of cardiac hypertrophy, trauma, age-related macular degeneration, and cancer.

35. A kit comprising one or more reagents for detecting two or more nucleic acid sequences selected from the group consisting of PA:1-27.

36. An array of probe nucleic acids, wherein said probe nucleic acids detect two or more nucleic acid sequences selected from the group consisting of PA:1-27.

37. An isolated polypeptide used to treat an angiogenic disorder in a subject, wherein the polypeptide is at least 80% identical to a polypeptide selected from the group consisting of:

a) a polypeptide comprising an amino acid sequence of PA:1-27;

b) a fragment of a polypeptide comprising an amino acid sequence of PA:1-27; wherein the fragment comprises at least 6 contiguous amino acids of PA:1-27;

c) a derivative of a polypeptide comprising an amino acid sequence of PA:1-27;

d) an analog of a polypeptide comprising an amino acid sequence of PA:1-27; and

e) a homolog of a polypeptide comprising an amino acid sequence of PA:1-27.

38. The polypeptide of claim 37, wherein the expression of the polypeptide is down-regulated in an angiogenic environment and the polypeptide is selected from the group consisting of PA:5, 14, and 15.

39. The polypeptide of claim 37, wherein the expression of the polypeptide is up-regulated in an angiogenic environment and the polypeptide is selected from the groups consisting of PA: 1-4, 6-13, and 16-26.

40. The polypeptide of claim 37, wherein the subject is a mammal.

41. The polypeptide of claim 40, wherein the subject is human.

42. An isolated nucleic acid molecule used to treat an angiogenic disorder in a subject, wherein the nucleic acid is least 75% identical to the nucleic acid sequence any one of PA:1-27 or the complement of the nucleic acid sequence.

43. The nucleic acid molecule of claim 42, wherein the expression status of the nucleic acid sequence is down-regulated in an angiogenic environment and the nucleic acid is selected from the group consisting of PAs:5, 14, and 15.

44. The nucleic acid molecule ~~of claim~~ 42, wherein the expression status of the nucleic acid sequence is up-regulated in an angiogenic environment and the nucleic acid is selected from the group consisting of PA:1-4, 6-13, and 16-26..

45. The nucleic acid molecule of claim 42 wherein the subject is a mammal.

46. The nucleic acid molecule of claim 45 wherein the subject is human.

47. A therapeutic composition comprising the polypeptide of claim 37 and a pharmaceutically acceptable carrier.

48. The therapeutic composition of ~~claim~~ 47 further comprising an additional active ingredient selected from the group consisting of a cardiovascular agent, an endothelial agent, an

angiogenic agent, and an angiostatic agent.

49. A therapeutic composition comprising the nucleic acid molecule of claim 42 and a pharmaceutically acceptable carrier.

50. The therapeutic composition of claim 49 further comprising an additional active ingredient selected from the group consisting of a cardiovascular agent, an endothelial agent, an angiogenic agent, and an angiostatic agent.

51. A therapeutic composition comprising an agonist or an antagonist of a PA polypeptide and a pharmaceutically acceptable carrier.

52. The therapeutic composition of claim 51 further comprising an additional active ingredient selected from the group consisting of a cardiovascular agent, an endothelial agent, an angiogenic agent, and an angiostatic agent.

53. A kit comprising a therapeutic composition for use in the treatment of an angiogenic disorder and a pharmaceutically acceptable carrier, wherein the therapeutic composition is selected from the group consisting of a PA polypeptide, an agonist of a PA polypeptide, and an antagonist of a PA polypeptide.

54. A method of treating an angiogenic disorder comprising administering the therapeutic composition of claim 47.

55. A method of treating an angiogenic disorder comprising administering the therapeutic composition of claim 49.

56. A method for inhibiting angiogenesis in a mammal comprising administering to the mammal a therapeutically effective amount of a therapeutic composition that inhibits angiogenesis.

57. The method of claim 56 wherein the therapeutic composition is selected from the group consisting of a PA polypeptide, an agonist of a PA polypeptide, an antagonist of a PA

polypeptide, and an anti-PA antibody.

58. A method for stimulating angiogenesis in a mammal comprising administering to the mammal a therapeutically effective amount of a therapeutic composition that stimulates angiogenesis.

59. The method of ~~claim 58~~ wherein the therapeutic composition is selected from the group consisting of a PA polypeptide, an agonist of a PA polypeptide, an antagonist of a PA polypeptide, and an anti-PA antibody.

60. An isolated nucleic acid molecule comprising a nucleic acid sequence that is least 75% identical to a nucleic acid sequence encoding the polypeptide of SEQ ID NO:72, or the complement of the nucleic acid sequence.

61. A nucleic acid vector comprising the nucleic acid sequence of claim 60.

62. A host cell comprising the isolated nucleic acid molecule of claim 60.

63. An isolated polypeptide at least 80% identical to a polypeptide selected from the group consisting of:

a) a polypeptide comprising an amino acid sequence of SEQ ID NO:72;

b) a fragment of a polypeptide comprising an amino acid sequence of SEQ ID NO:72, wherein the fragment comprises at least 6 contiguous amino acids;

c) a derivative of a polypeptide comprising an amino acid sequence of SEQ ID NO:72;

d) an analog of a polypeptide comprising an amino acid sequence of SEQ ID NO:72; and

e) a homolog of a polypeptide comprising an amino acid sequence of SEQ ID NO:72.

64. An antibody that selectively binds to the polypeptide of claim 63, and fragments, homologs, analogs and derivatives of the antibody.

65. A pharmaceutical composition comprising the nucleic acid of claim 60.

66. A pharmaceutical composition comprising the polypeptide of claim 63.

67. A method of detecting the presence of the nucleic acid of claim 60 in a sample, comprising contacting the sample with a compound that selectively binds to the nucleic acid of claim 60 and determining whether the compound bound to the nucleic acid of claim 60 is present in the sample.

68. A method of detecting the presence of the polypeptide of claim 63 in a sample, comprising contacting the sample with a compound that selectively binds to the polypeptide of claim 63 and determining whether the compound bound to the polypeptide of claim 63 is present in the sample.